

HR-230 An Investigation of Signing Needs at Uncontrolled Local Road Intersections

Key Words: Uncontrolled intersections, Traffic signing, Local roads

ABSTRACT

Iowa counties have been experiencing significant tort claim liability due to the signing of local roads. One such problem is relative to the real or alleged need for signing at uncontrolled intersections of local roads. Traffic engineering faculty at Iowa State University have, in the past, taken for granted the adequacy of the guidelines and criteria contained in the 1978 Manual on Uniform Traffic Control Devices (MUTCD) [1]. Thus, it has been assumed that the standard CROSS ROAD sign, which calls for a yellow diamond with a black cross, was sufficient to provide the necessary warning that a driver may be approaching an intersection which requires special precautionary driving attention. Some county attorneys advised that the MUTCD guidance to apply the CROSS ROAD sign on a through highway conflicted with the legal status of the local county road. It is known that in several states this sign is used for warning purposes on local roads.

The following represent the findings of Project HR-230 as outlined in this report. First, based on an interactive simulation survey of 405 drivers, definitive estimates of the nature of driver perceptions with respect to local road uncontrolled intersections are available. Ninety-seven percent of the drivers participating in the simulation survey were of the opinion that obscured local road uncontrolled intersections need signing to warn approaching drivers of hidden intersections or those with limited sight distance. These same respondents displayed a decided preference for either a symbol sign with a graphic design (such as the standard CROSS ROAD sign) or preferred a word-legend sign with a message communicating that they were approaching a dangerous intersection or a blind intersection. Analysis of the re-sponses and characteristics of the respondents identified a pair of subgroups within the survey sample (each containing about 10% of the sample) representing two divergent modes of preference. One subgroup was symbol-oriented, and the other was word-oriented.

Second, the results of two special surveys, conducted at the Merle Hay Mall in Des Moines, Iowa, and the Iowa State Fair, coupled with research by others, suggested that significant driver confusion exists as to the operation and meaning of many common symbol signs. This finding was verified specifically in the case of Iowa drivers.

Third, a computer generated questionnaire following the simulation survey revealed that most persons sampled do not know very much about the operation of county government. They generally think the county does a pretty good job of planning their activities. Importantly, the sample tended to place expending funds to install new signs and traffic control devices on 4 priority just behind repairing the

road surface and making bridge safety inspections or else they considered installation of new traffic control devices as one of the least important activities in the county engineering budget. Thus, the responses tended to reflect some polarization of opinion. Also, it should be pointed out, they considered the county engineering program as the most or the least important activity of the county budget as presented in the sample. This, too, reflects some polarization in opinion.

Fourth, the successful development of a simulation survey experiment utilizing a microprocessor computer and a remotely controlled video tape player indicated that a new technology exists with which traffic engineering and transportation policy issues can be efficiently and effectively analyzed.